

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: George Henry Platt Brown et al.

Application No.: 10/522,098
Filed: 12/21/2005
For: Signal Transmitting Cable

Group No.: 2831
Examiner: Nguyen, C.

Mail Stop Appeal Briefs – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION--37 C.F.R. § 41.37)

1. This brief is in furtherance of the Notice of Appeal, filed in this case on 02/05/2007, and the Notice of Panel Decision from Pre-Appeal Brief Review, mailed 03/13/2007.

2. STATUS OF APPLICANT

This application is on behalf of other than a small entity.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. § 41.20(b)(2), the fee for filing the Appeal Brief is:

other than a small entity	\$500.00
---------------------------	----------

Appeal Brief fee due	\$500.00
-----------------------------	-----------------

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Appeal brief fee	\$500.00
Extension fee (if any)	\$0.00

TOTAL FEE DUE	\$500.00
----------------------	-----------------

6. FEE PAYMENT

Authorization is hereby made to charge the amount of \$500.00 to Deposit Account No. 50-1351 (Order No. UDL1P017).

7. FEE DEFICIENCY

If any additional extension and/or fee is required, and if any additional fee for claims is required, charge Deposit Account No. 50-1351 (Order No. UDL1P017).

Reg. No.: 41,429
Tel. No.: 408-971-2573
Customer No.: 28875

/KEVINZILKA/

Signature of Practitioner
Kevin J. Zilka
Zilka-Kotab, PC
P.O. Box 721120
San Jose, CA 95172-1120
USA

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:)	
)	
Brown et al.)	Group Art Unit: 2831
)	
Application No. 10/522,098)	Examiner: Nguyen, Chau N.
)	
Filed: 12/21/2005)	Date: 04/13/2007
)	
For: SIGNAL TRANSMITTING CABLE)	
)	
)	
)	
)	
)	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ATTENTION: Board of Patent Appeals and Interferences

APPEAL BRIEF (37 C.F.R. § 41.37)

This brief is in furtherance of the Notice of Appeal, filed in this case on 02/05/2007, and the Notice of Panel Decision from Pre-Appeal Brief Review, mailed 03/13/2007.

The fees required under § 1.17, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37(c)(i)):

- I REAL PARTY IN INTEREST
- II RELATED APPEALS AND INTERFERENCES
- III STATUS OF CLAIMS
- IV STATUS OF AMENDMENTS

V	SUMMARY OF CLAIMED SUBJECT MATTER
VI	GROUND OF REJECTION TO BE REVIEWED ON APPEAL
VII	ARGUMENT
VIII	CLAIMS APPENDIX
IX	EVIDENCE APPENDIX
X	RELATED PROCEEDING APPENDIX

The final page of this brief bears the practitioner's signature.

I REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this appeal is Emtelle (UK) Limited.

II RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c) (1)(ii))

With respect to other prior or pending appeals, interferences, or related judicial proceedings that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no other such appeals, interferences, or related judicial proceedings.

A Related Proceedings Appendix is appended hereto.

III STATUS OF CLAIMS (37 C.F.R. § 41.37(c) (1)(iii))

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 28-43

B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims withdrawn from consideration: None
2. Claims pending: 28-43
3. Claims allowed: None
4. Claims rejected: 28-43
5. Claims cancelled: 1-27

C. CLAIMS ON APPEAL

The claims on appeal are: 28-43

See additional status information in the Appendix of Claims.

IV STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))

As to the status of any amendment filed subsequent to final rejection, there are no such amendments after final.

V SUMMARY OF CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))

With respect to a summary of Claim 28, as shown in Figures 7-8, a signal transmitting cable is provided. The signal transmitting cable includes a first signal transmitting portion including a plurality of elongate, flexible first signal transmitting members (e.g. see item 504 of Figure 7, etc.). In addition, the first signal transmitting members of the first signal transmitting portion are surrounded by a first layer of resin material (e.g. see item 506 of Figure 7, etc.) curable by means of radiation such that only the outermost signal transmitting members are in contact with said first layer. Further, the first signal transmitting members are arranged to form at least three rows (e.g. see Figure 7, etc.), wherein for each said row containing a plurality of said members, said members are arranged such that neighbouring members of said row are in touching contact with each other (e.g. see Figure 7, etc.). Still yet, each recess formed by neighbouring members of a first said row facing towards a second said row accommodates a respective member of said second row (e.g. see Figure 7, etc.). Moreover, said first layer is in touching contact with substantially all of the outward facing surface (e.g. see item 610 of Figure 8, etc.) of the first signal transmitting portion. See, for example, page 4, line 30-page 5, line 9 et al.

With respect to a summary of Claim 41, as shown in Figures 7-8, a method of forming a signal transmitting cable is provided. In use, a plurality of elongate, flexible first signal transmitting members (e.g. see item 504 of Figure 7, etc.) are arranged in at least three rows (see Figure 7, etc.). For each said row containing a plurality of said members, said members are arranged such that neighbouring members of a row are in touching contact with each other (see Figure 7, etc.). In addition, each recess formed by neighbouring members of a first said row facing towards a second said row accommodates a respective member of a said second row (e.g. see Figure 7, etc.). Furthermore, said first signal transmitting members are surrounded by a first layer of resin material (e.g. see item 506 of Figure 7, etc.) curable by means of radiation such that only the outermost signal transmitting layers are in contact with said first layer. Still yet, said first layer is in touching contact with substantially all of the outward facing surface (e.g. see item 610 of Figure 8, etc.) of the first signal transmitting portion. Also, said first layer is cured by means of radiation. See, for example, page 6, line 27-page 7, line 9 et al.

Of course, the above citations merely provide examples of various claim language and possibly other features, and thus should not be construed as limiting in any manner.

VI GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL (37 C.F.R. § 41.37(c)(1)(vi))

Following, under each issue listed, is a concise statement setting forth the corresponding ground of rejection.

Issue # 1: The Examiner has objected to Claim 28 due to informalities.

Issue # 2: The Examiner has rejected Claims 28, 32, 36, 40 and 41 under 35 U.S.C. 102(b) as being anticipated by Sano et al. (U.S. Patent No. 5,109,456).

Issue # 3: The Examiner has rejected Claims 29-31 under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456).

Issue # 4: The Examiner has rejected Claims 33-35, 42 and 43 under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456), in view of Thompson (U.S. Patent No. 4,523,804).

Issue # 5: The Examiner has rejected Claim 37 under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456), in view of Shoffner (U.S. Patent No. 4,892,442).

Issue # 6: The Examiner has rejected Claims 38 and 39 under U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456), in view of Davis et al. (U.S. Patent No. 6,801,696).

VII ARGUMENT (37 C.F.R. § 41.37(c)(1)(vii))

The claims of the groups noted below do not stand or fall together. In the present section, appellant explains why the claims of each group are believed to be separately patentable.

Issue # 1:

The Examiner has objected to Claim 28 due to informalities.

Group #1: Claim 28

Appellant respectfully disagrees with such objection, and asserts that it is not clear as to which instance of "said row" the Examiner is referring.

Issue # 2:

The Examiner has rejected Claims 28, 32, 36, 40 and 41 under 35 U.S.C. 102(b) as being anticipated by Sano et al. (U.S. Patent No. 5,109,456).

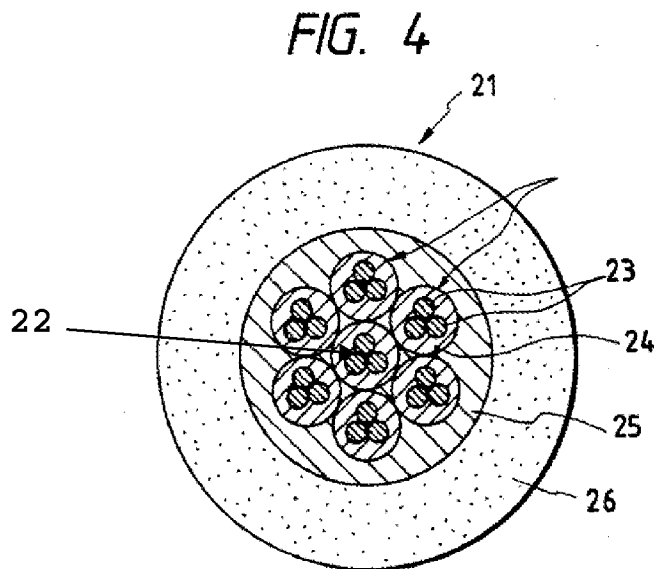
Group #1: Claims 28, 32, 36, 40 and 41

With respect to independent Claims 28 and 41, the Examiner has relied on Figure 4 from Sano to make a prior art showing of appellant's claimed "signal transmitting cable comprising a first signal transmitting portion including a plurality of elongate, flexible first signal transmitting members, wherein the first signal transmitting members of the first signal transmitting portion are surrounded by a first layer of resin material curable by means of radiation such that only the outermost signal transmitting members are in contact with said first layer, and said first signal transmitting members are arranged to form at least three rows, wherein for each said row containing a plurality of said members, said members are arranged such that neighbouring members of said row are in touching contact with each other, each recess formed by neighbouring members of a first said row facing towards a second said row accommodates a

respective member of said second row, and said first layer is in touching contact with substantially all of the outward facing surface of the first signal transmitting portion.”

In addition, in the Office Action mailed 08/03/2006, the Examiner has further argued that “Sano et al. teaches that high elastic wire material may be arranged in the gap among the gathered sub-units (col. 6, lines 34-39).”

Appellant respectfully disagrees and asserts that the invention defined by Claims 28 and 41 of the present application differs from the disclosure of Sano in that, in the present invention, “only the outermost signal transmitting members are in contact with [the] first layer” (emphasis added), as appellant claims, whereas the secondary coating 25 penetrates the interstices between the sub units 22 in Sano. This can be seen in Figure 4 of Sano (shown below) in which the shading representing the secondary coating 25 can be seen to the left and right of the innermost sub unit 22.



Also, the text of Sano at column 5, lines 36 to 38 states that the secondary coating 25 is applied on the seven sub units 22. This means that the ultraviolet setting resin 25 must also be applied to the innermost sub-unit, as a result of which it is impossible for only the outermost sub units 22 to be in contact with the secondary coating 25. As a result, Sano does not disclose an arrangement in which “only the outermost signal transmitting members are in contact with [the] first layer,” as appellant claims, and it is therefore submitted that Claim 28 is novel in view of Sano.

As a result of this difference, the signal transmitting cable of appellant's present invention has the advantage over the arrangement of Sano in that the cable is provided with sufficient stiffness, while still allowing sufficient axial sliding of the signal transmitting members relative to each other in order to minimize the application of stress to signal transmitting members (which may include fragile optical fibers) when the cable is bent. This significantly improves the speed at which the cable can be installed in a duct by means of blowing using compressed air. A further benefit of leaving the internal interstices free from any radiation curable resin is that since UV light is typically used to cure such materials, if the internal interstices include radiation curable resin, then the UV light used to cure the resin may fail to penetrate all of the internal interstices, particularly in the case of arrangements in which there are a large number of signal transmitting members. In that case, partially cured or uncured resin can lead to the formation of gases which can be detrimental to the long term life of the signal transmitting members individually, and to the signal transmitting cable as a whole.

Sano does not recognize the existence of the first problem, i.e. that excessive stresses can be applied to the signal transmitting members on bending the cable if the radiation curable material is in contact with all of the signal transmitting members. Sano also does not recognize the existence of the second problem, i.e. that the presence of radiation curable material in the internal interstices between the signal transmitting members can give rise to uncured or partially cured material, which in turn can have a detrimental effect on the long term performance of the cable. This is further illustrated by the passage at column 6, lines 14 to 18 of Sano, which states that a low viscosity resin is useful as the material of the secondary coating, because it flows into gaps among sub units. This therefore not only encourages the skilled person to use a material which will flow into the internal interstices between the sub units, but also makes it difficult for the person skilled in the art to make an arrangement in which only the outermost sub units are in contact with the secondary coating because of the low viscosity of the material used. Sano therefore gives no incentive to the person skilled in the art to try to prevent the formation of gas as a result of the existence of uncured or partially cured resin material in the interstices between the signal transmitting members.

In addition, appellant respectfully asserts that none of the other prior art cited in the office action discloses a signal transmitting cable in which only the outermost signal transmitting members are in contact with the first layer of radiation curable resin material. Thus, even if a person skilled in the art were to seek a solution to the problem of gas formation in any of the other prior art, no solution would be found. Accordingly, the person skilled in the art would not be able to combine the teachings of Sano with that of any of the other prior art to arrive at the present invention. It is therefore submitted that the present invention as defined by independent Claims 28 and 41 involves an inventive step not present in the prior art.

The Examiner is reminded that a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the identical invention must be shown in as complete detail as contained in the claim. *Richardson v. Suzuki Motor Co.* 868 F.2d 1226, 1236, 9USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

This criterion has simply not been met by the above reference, as noted above.

Issue # 3:

The Examiner has rejected Claims 29-31 under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456).

Group #1: Claims 29-31

Appellant respectfully asserts that such claims are not met by the prior art for the reasons argued with respect to Issue #2, Group #1.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior

art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on appellant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991).

Appellant respectfully asserts that at least the third element of the *prima facie* case of obviousness has not been met, since the prior art references, as relied on by the Examiner, fail to teach or suggest all of the claim limitations, as noted above.

Issue # 4:

The Examiner has rejected Claims 33-35, 42 and 43 under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456), in view of Thompson (U.S. Patent No. 4,523,804).

Group #1: Claims 33-35, 42 and 43

Appellant respectfully asserts that such claims are not met by the prior art for the reasons argued with respect to Issue #2, Group #1.

Appellant again respectfully asserts that at least the third element of the *prima facie* case of obviousness has not been met, as noted above.

Issue # 5:

The Examiner has rejected Claim 37 under 35 U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456), in view of Shoffner (U.S. Patent No. 4,892,442).

Group #1: Claim 37

Appellant respectfully asserts that such claims are not met by the prior art for the reasons argued with respect to Issue #2, Group #1.

Appellant again respectfully asserts that at least the third element of the *prima facie* case of obviousness has not been met, as noted above.

Issue # 6:

The Examiner has rejected Claims 38 and 39 under U.S.C. 103(a) as being unpatentable over Sano et al. (U.S. Patent No. 5,109,456), in view of Davis et al. (U.S. Patent No. 6,801,696).

Group #1: Claims 38 and 39

Appellant respectfully asserts that such claims are not met by the prior art for the reasons argued with respect to Issue #2, Group #1.

Appellant again respectfully asserts that at least the third element of the *prima facie* case of obviousness has not been met, as noted above.

In view of the remarks set forth hereinabove, all of the independent claims are deemed allowable, along with any claims depending therefrom.

VIII CLAIMS APPENDIX (37 C.F.R. § 41.37(c)(1)(viii))

The text of the claims involved in the appeal (along with associated status information) is set forth below:

1-27. (Cancelled)

28. (Previously Presented) A signal transmitting cable comprising a first signal transmitting portion including a plurality of elongate, flexible first signal transmitting members, wherein the first signal transmitting members of the first signal transmitting portion are surrounded by a first layer of resin material curable by means of radiation such that only the outermost signal transmitting members are in contact with said first layer, and said first signal transmitting members are arranged to form at least three rows, wherein for each said row containing a plurality of said members, said members are arranged such that neighbouring members of said row are in touching contact with each other, each recess formed by neighbouring members of a first said row facing towards a second said row accommodates a respective member of said second row, and said first layer is in touching contact with substantially all of the outward facing surface of the first signal transmitting portion.

29. (Previously Presented) A cable according to claim 28, wherein the first signal transmitting portion includes 12 said first signal transmitting members arranged in 4 rows having 2, 3, 4 and 3 signal transmitting members respectively.

30. (Previously Presented) A cable according to claim 28, wherein the first signal transmitting portion includes 18 said first signal transmitting members arranged in 5 rows having 2, 4, 5, 4 and 3 signal transmitting members respectively.

31. (Previously Presented) A cable according to claim 28, wherein the first signal transmitting portion includes 24 said first signal transmitting members arranged in 5 rows having 4, 5, 6, 5 and 4 signal transmitting members respectively.

32. (Previously Presented) A cable according to claim 28, wherein said first layer is formed of resin material cured by means of ultraviolet radiation.
33. (Previously Presented) A cable according to claim 28, further comprising a second signal transmitting portion comprising a plurality of elongate, flexible second signal transmitting members arranged around the periphery of said first layer, wherein said external dimensions of said first layer are arranged such that each said second signal transmitting member is in touching contact with two adjacent said second signal transmitting members.
34. (Previously Presented) A cable according to claim 33, further comprising a third signal transmitting portion comprising a plurality of elongate, flexible third signal transmitting members arranged outwardly of said second signal transmitting portion.
35. (Previously Presented) A cable according to claim 33, wherein said second signal transmitting members are embedded in a second layer.
36. (Previously Presented) A cable according to claim 28, wherein an outer surface of the cable is modified to facilitate installation into a duct by means of fluid flow.
37. (Previously Presented) A cable according to claim 36, wherein said outer surface is provided with ribs.
38. (Previously Presented) A cable according to claim 36, wherein said outer surface includes at least one anti-static material.
39. (Previously Presented) A cable according to claim 36, wherein said outer surface includes at least one friction reducing material.
40. (Previously Presented) A cable according to claim 28, further comprising an outermost layer having an inner periphery longer than the outer periphery of the layer adjacent thereto to enable removal of said outermost layer from the cable.

41. (Previously Presented) A method of forming a signal transmitting cable, the method comprising:

arranging a plurality of elongate, flexible first signal transmitting members in at least three rows, wherein for each said row containing a plurality of said members, said members are arranged such that neighbouring members of a row are in touching contact with each other, and each recess formed by neighbouring members of a first said row facing towards a second said row accommodates a respective member of a said second row;

surrounding said first signal transmitting members by a first layer of resin material curable by means of radiation such that only the outermost signal transmitting layers are in contact with said first layer, and said first layer is in touching contact with substantially all of the outward facing surface of the first signal transmitting portion; and

curing said first layer by means of radiation.

42. (Previously Presented) A method according to claim 41, further comprising:

arranging a plurality of elongate, flexible second signal transmitting members around the periphery of said first layer such that each said second signal transmitting member is in touching contact with two adjacent said second signal transmitting members; and

fixing said second signal transmitting members in position relative to said first layer.

43. (Previously Presented) A method according to claim 42, wherein the step of fixing said second signal transmitting members in position relative to said first layer comprises embedding said second signal transmitting members in a second layer.

IX EVIDENCE APPENDIX (37 C.F.R. § 41.37(c)(1)(ix))

There is no such evidence.

X RELATED PROCEEDING APPENDIX (37 C.F.R. § 41.37(c)(1)(x))

N/A

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1351 (Order No. UDL1P017).

Respectfully submitted,

By: /KEVINZILKA/

Date: April 13, 2007

Kevin J. Zilka

Reg. No. 41,429

Zilka-Kotab, P.C.

P.O. Box 721120

San Jose, California 95172-1120

Telephone: (408) 971-2573

Facsimile: (408) 971-4660